The Issue of Quality

in

American Health Care

Today's objectives:

Understand the evidence that suggests there is a problem with process and outcome in American Health Care.

Grasp the methods used to determine that finding.

A) WHO grading system,

B) IOM reports

C) Published reports on variation in patterns of care and

WHO Report 2000

Methods:

- **191 Members**
- **Adv. Panel**
- **1997 data** (some extrapolations)

Weaknesses

- **Lack of uniform definitions**

WHO Rankings

DALE Attainment

1 Japan
2 Australia
3 France
4 Sweden
5 Spain
6 Italy
7 Greece
8 Switzerland
9 Monaco
10 Andorra
11 San Marino
12 Canada
13 Netherlands
14 United Kingdom
15 Norway
16 Belgium
17 Austria
18 Luxembourg
19 Iceland
20 Finland
21 Malta
22 Germany
23 Israel
24 USA
25 Cyprus
26 Dominica
27 Ireland
28 Denmark
29 Portugal
30 Singapore

Health Sys Perf

1. France
2. Italy
3. San Marino
4. Andorra
5. Malta . . .

32. Australia
33. Chile
34. Denmark
35. Dominica
36. Costa Rica
37. USA
38. Slovenia
39. Cuba

Overall Sys

1. Japan
2. Switzerland
3. Norway
4. Sweden
5. Luxembourg . . .

10. Italy
11. Australia
12. Belgium
13. Germany
14. USA
15. Iceland
16. Andorra
17. Monaco
18. Spain
19. Denmark

IOM Report 1999: To Err is Human

Based on

Two published studies (Utah & New York)

Analysis extrapolated to nation

"Found" 50-100,000 deaths /year from *error*

Controversy !!

QUESTION: "How many . . ."

The ANSWER: ". . . is blowing in the wind."

Variation in Care:

- by race
- by gender
- by S-E status
- by region

Small area variation (small area analysis; SAA)

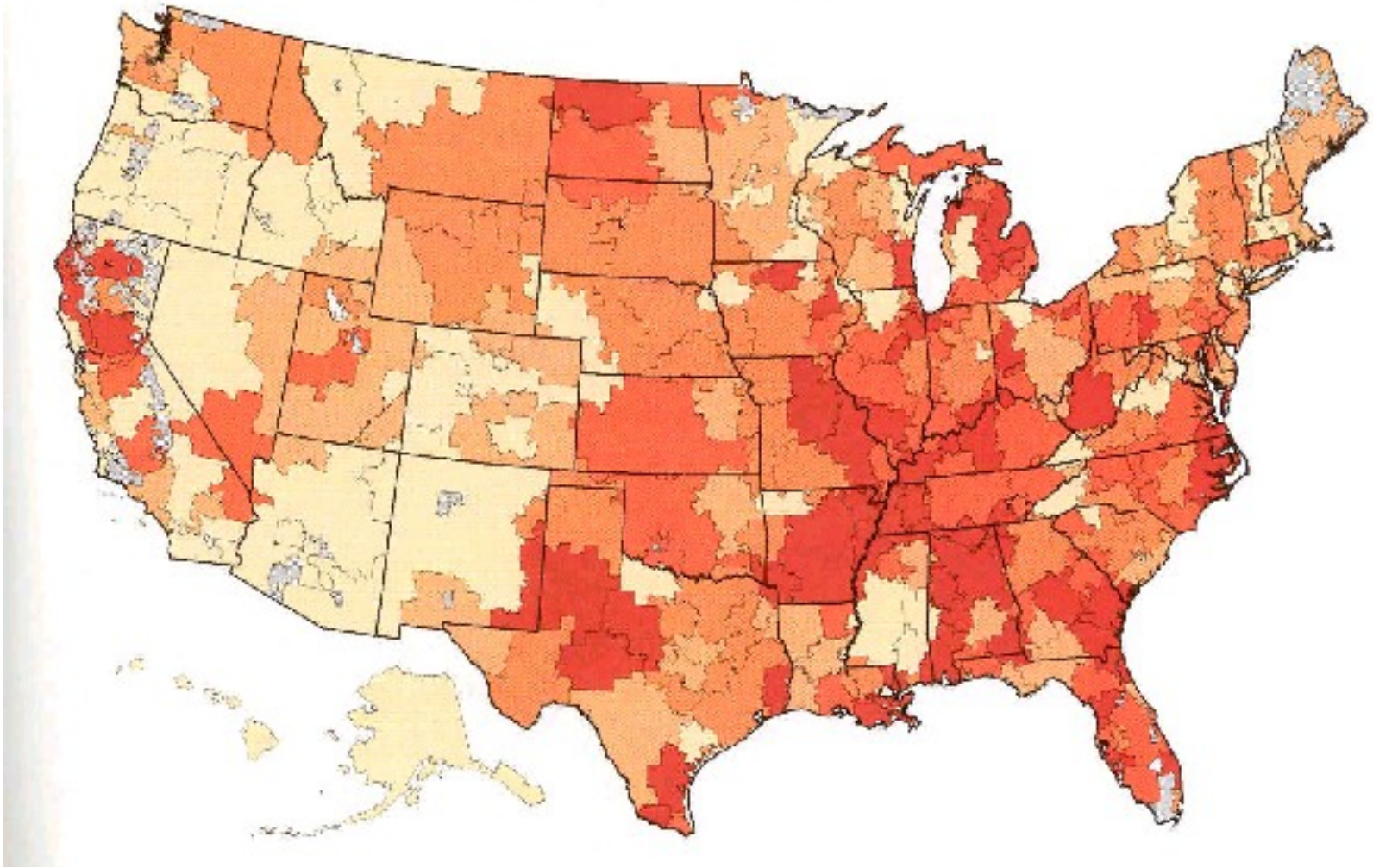
1. Geographic areas
2. Patient care linked to home of record
3. Comparisons of structure, process & outcome
   a) Structure: Practitioners, beds, etc.
   b) Process: Tests, treatments, procedures, funding, etc.
   c) Outcome: Mortality, morbidity, functional status, etc.
4. Significant variation seen

“Relationships”:

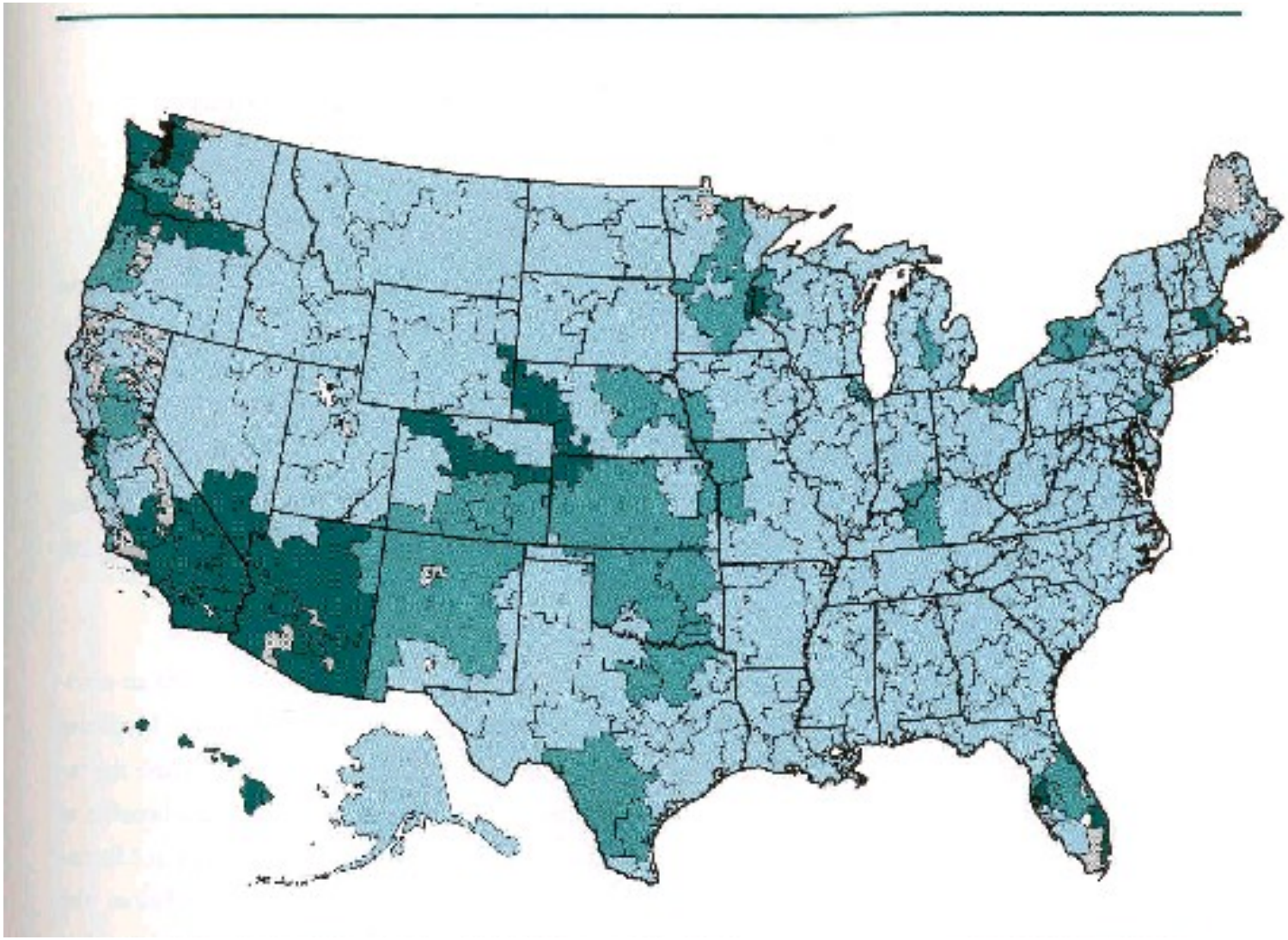
1. Positive correlations (after age and gender adjustment) for higher use of resources and:

    a. Male Gender in youth & middle age
    b. Northeast
    c. Urban locality
    d. More physicians, beds, etc.
    e. Caucasian
    f. Insurance coverage

1. Dartmouth Atlas codified these differences.



CABG Rates in Managed Care Populations



Medicare Enrollment in Managed Care Organizations

“Other Relationships”:

1. “High-use” and “low-use” areas are not homogenous.
2. “Average-use” areas do not contain “average-use” physicians.
3. Physicians who are “high-users” for one condition are not always high users for all conditions.

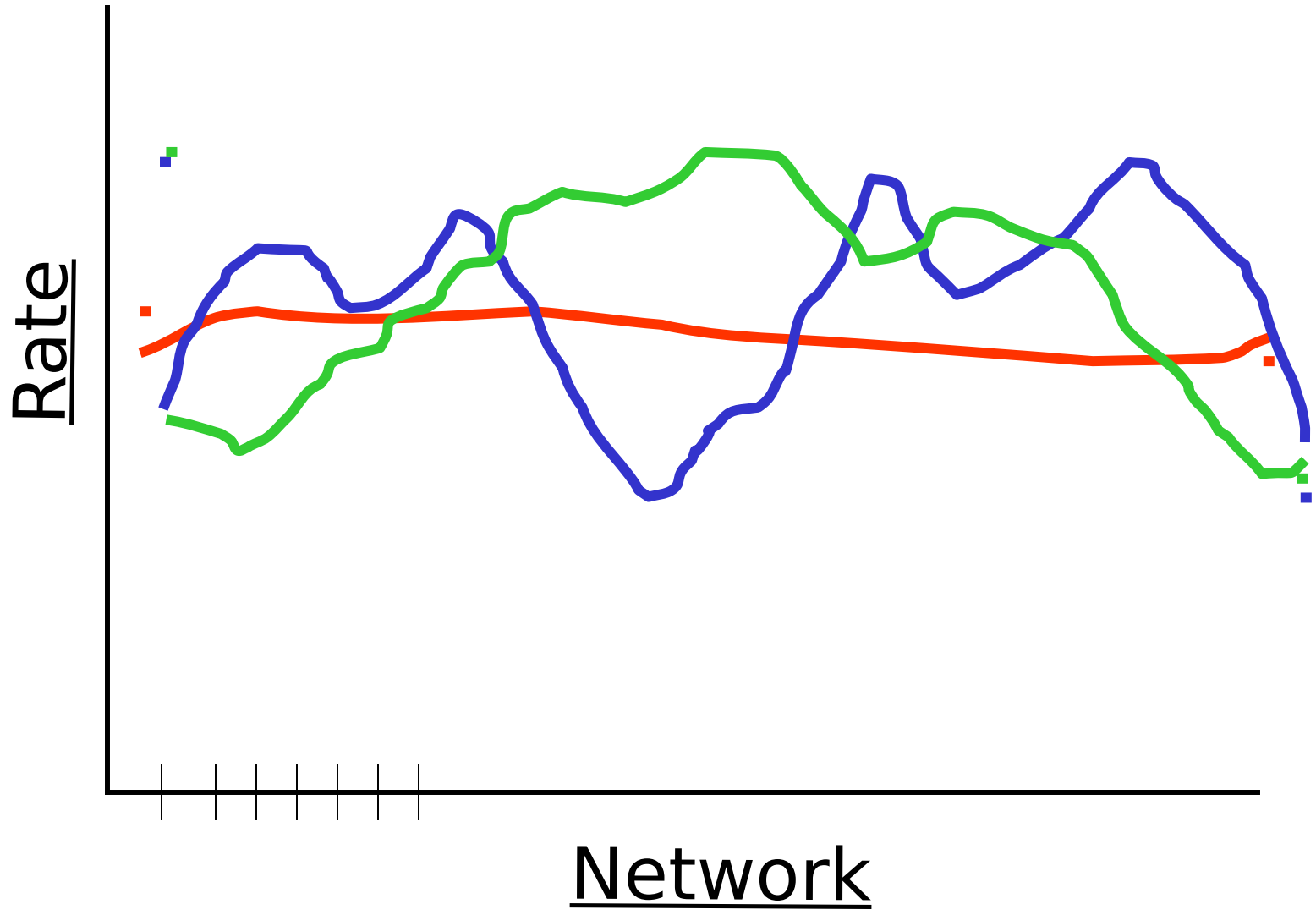
The variation is variable !

“Causes”:

1. Pecuniary interests of the physicians
2. Racism
3. Sexism
4. Other “venalisms”

Facts:

1. VA variation similar to Dartmouth study


Rate
Network

“Causes”:

1. Pecuniary interests of the physicians
2. Racism
3. Sexism
4. Other “venalisms”

Facts:

1. VA variation similar to Dartmouth study
2. Racial explanations were identified
3. Women physicians act differently, too.
4. Too many variations for ‘linear’ explanation.

5
5
5

Chronic Disease	Minimum = 1 encounter	Minimum = 2 encounters
COPD	130,814	73,845
CHF	144,135	95,387
DM	226,337	160,885
MDD	118,960	85,113
PNEU	104,124	57,335
KF	34,280	26,583
HYP	534,010	308,684
AIHD	247,874	152,877

Outpatient Visit Rates, by MSA

with 95% confidence intervals

- Complex Adaptive systems are composed of interdependent agents that act according to a set of rules in ways that enhance the likelihood of the agents and the system adapting to external forces in a manner that ensures their existence.

Key Features of Complexity

1. In everything, there is order – and disorder
2. Order is predictable; disorder is random (chaos)
3. Between Order and Chaos is a “zone of complexity”
4. Substantive, useful *change* does **NOT** occur where there is Order or where there is Chaos – it **ONLY** occurs at the ‘edge of chaos’ in the zone of complexity.
5. In the zone, change occurs in “chunks”; some things work and some don’t.
6. Inter-related processes form systems – with Order, Chaos and Complexity within

Key Features (of Complexity)

7. Systems that are complex show signs of self-organization – they adapt to external forces and others causes for change.
8. Examples of systems:
   - Beehive
   - Stock market
   - Hospital
   - Forest

Health care is a Complex System

- Multiple encounter level variations
  - Physician Level

    Knowledge & Training, Past performance, Communication skill, personal adaptability, time for this encounter, gender, etc.
  - Disease Level

    Scientific knowledge, severity, stage, stability, etc.
  - Patient Level

    Expectations, knowledge, communication ability, age, gender, tolerance, psychosocial attitudes and beliefs, etc.
  - Resource Level

    Beds, specialists, insurance, locality practice pattern, time for this visit, testing facilities, etc.
  - Outcome level

Health care is a Complex System

- Multiple encounter level variations
- Logarithmic change in a practice

Average patient ‘panel’ for a physician = 3500

Average Practice size = 4 physicians

Average office staff per practice = 4 staff (clerks and nurses)

It is hard to imagine that there would NOT be variation !

Health care is a Complex System

- Multiple encounter level variations
- Logarithmic change in a practice
- Less than exact (linear) science

Much not known about cause or best treatment

CPGs fit 70% of patients without some adaptation

Estimated 15% of care has complete scientific underpinning (and will have reproducible effects and outcomes)

Working Hypotheses:

- Health care delivery is a complex adaptive system.
- Linear approaches to measurement and understanding of such systems is unlikely to yield useful insight.
- Variation is a sign of ‘health’ in a complex adaptive system.
- Our efforts should be aimed at re-enforcing good change and variation – not in trying to eliminate all variation from practice.

Working Hypotheses:

- However, not all variation is necessarily good
- A working question is, “Is there a ‘corridor’ of appropriate and useful variation in health care delivery?”

  “Can we find it?”

  “Will anyone believe us?”

Sometimes It's Difficult to Clearly Understand the Signals

Conclusions:

‘In the eyes of the Beholder”

Justice Potter Stewart

“American Medicine is the Best in the World.

. . . something must be done about this!”

Dave Barry

Wide variations mean they can’t all be right.

. . . something must be done about this.

Next Week

First look at general approaches by the profession to improving quality.

Evidenced-based medicine

Clinical guidelines, etc.